FSI

OCR

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T

25X1

COUNTRY Hungary

SUBJECT Developments in Theoretical Physics and Nuclear Chemistry

REPORT

DATE DISTR. 15 JAN 1959

NO. PAGES 2

REFERENCES RD

DATE OF INFO.

PLACE & DATE ACQ.

25X1

25X1

SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

1. In the field of theoretical physics in Hungary there is a general program under the leadership of Dr. Novobaczky.[1] In this field several groups are active, including one under Szalay and another concerned with crystal physics under Gynrai. A new statistical theory has been developed by Pál Gombas. Around 1956 the KFKI (Central Research Institute of Physics) was set up under the Academy of Sciences and headed by Lajos Janossy. More recently, the Atomki foundation for nuclear physics was set up under Szalay. There is a 4.5 mev. (million electron volts) electrostatic generator. Around 1955 work was begun on a very low-power (two kilowatt), water-cooled, moderated research reactor operating with fuel elements containing 10 per cent enrichment in Uranium 235. This reactor was scheduled to go into operation in the fall of 1958.

2. There is also a new nuclear chemistry department headed by István Kiss which has two main fields of interest. The first of these is concerned with stable isotopes and includes the separation of hydrogen and deuterium as well as work on boron isotopes and lithium. The second principal field of interest is that of uranium ores; it appears that work is being done on very low-grade ores, and laboratory research is being conducted on a type of pitchblende which appears very greatly dispersed in the ore.

Comments:

25X1

1. This scientist may be identical with the head of the Department of Theoretical Physics of the Hungarian Institute of Experimental Physics, Dr. Karoly Novobatsky.

2. The following experiments are known to have been conducted at KFKI and Atomki:

   a. At Atomki a study of neutron correlation was conducted by observations of Beta decay in a Wilson chamber. Po and Be sources were used for particle sources, and the experiment involved the production of He^6 particles of half-life 0.85 seconds. Among the results were calculated values for the energy of the neutrino and the He^6 nucleus.

S-E-C-R-E-T

1-27-38 10 FEB 1959

25X1

STATE	x	ARMY	x	NAVY	x	AIR	x	FBI		AEC				OSI Ev	x

(Note: Washington distribution indicated by "X"; Field distribution by "#".)

INFORMATION REPORT INFORMATION REPORT

Sanitized Copy Approved for Release 2010/07/01 : CIA-RDP80T00246A046500080001-7

25X1

b. At KFKI a study was made of low-energy photons in an attempt to visualize their behavior. Interferometers of 30 centimeters and 14 meters in length were used. The temperature change during measurement in the 14 meter instrument, which lasted two to three hours, was claimed to be held to 10^{-7} degrees centigrade per second. The results were claimed to verify the assumptions of Dirac. KFKI has also developed electronic equipment for the photoanalysis of low and high voltage spark discharges and high voltage arcs. Time resolution for these experiments was claimed to be one microsecond or better.

25X1

25X1

25X1

Next 5 Page(s) In Document Denied